

**Notice of Allowability**

Application No.

10/804,303

Applicant(s)

TSUDA ET AL.

Examiner

Art Unit

Sow-Fun Hon

1772

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 5/31/07.
2. ☒ The allowed claim(s) is/are 1-21,28-39,43-45 and 47.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Continuation of Attachment(s) 9. Other: The drawings filed 3/19/04 are accepted by the examiner.

## REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance.

The closest cited prior art of record, US 5,307,190, US 3,848,966 and US 3,803,050 fail to teach or suggest, even in view of each other, US 5,186,986, US 6,801,286, US 6,055,031 and US 6,819,375, the combination of a liquid crystal panel having a liquid crystal layer sandwiched between a pair of substrates, wherein: said liquid crystal layer comprises a liquid crystal and a cross-linked resin; wherein the cross-linked resin is formed from a resin composition comprising one or more first compounds which have a cross-linkable structural part which comprises a polar-group structural part, and a hydrophobic terminal part with a straight-chain having three or more carbon atoms, where the resin composition is cross-linked in the presence of the liquid crystal, and said cross-linked resin includes a cross-linked structural part adhered to an upper surface of one of the pair of substrates, and a rising terminal part, which is a terminal part rising from said upper surface of said substrate toward said liquid crystal; the one or more first compounds being represented by formula (1) or (2), wherein R<sup>1</sup> is the hydrophobic terminal part with a straight-chain section having three or more carbon atoms; A<sup>1</sup> and A<sup>2</sup> are multivalent groups which comprise an aliphatic chain that may be branched, an aromatic ring that may have a substituting group, an alicyclic ring that may be branched or nitrogen; and B<sup>1</sup>, B<sup>2</sup> and B<sup>3</sup> are each a cross-linkable structural part which comprises a polar-group structural part. None of the references teach that the cross-linked structural part is adhered to the upper surface of one of the substrates,

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wherein the hydrophobic terminal part with a straight-chain section having three or more carbon atoms rises from said upper surface of the substrate into the liquid crystal, the compound responsible represented by formula (1) or (2).

There is no motivation to combine US 5,307,190 with US 5,496,497 since the cross-linked resin in '190 provides alignment control for the liquid crystal while the cross-linked resin in '497 does not.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached at (571)272-3186. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sow-Fun Hon

06/13/07

  
RENA DYE  
SUPERVISORY PATENT EXAMINER  
AU 1772